IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Appl.No.:   09/896,503   Confirmation No.: 9240
Appellant: Ronk et al
Filed: June 29, 2001
TC/AU: 2625
Examiner: Patel

Docket: TI-30890
Cust.No.:   23494

APPELLANTS' BRIEF

Commissioner for Patents
P.O. Box 1450
Alexandria, VA   22313-1450

Sir:
        The attached sheets contain the Rule 41.37 items of appellants' brief; this brief is pursuant to MPEP 1204.01 (Reinstatement of Appeal). The fee for filing a brief in support of the appeal has previously been paid; but the Commissioner is hereby authorized to charge any other necessary fees to the deposit account of Texas Instruments Incorporated, account No. 20-0668.

Respectfully submitted,

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Rule 41.37(c)(1)(i) Real party of interest

Texas Instruments Incorporated owns the application.

Rule 41.37(c)(1)(ii) Related appeals and interferences

There are no related dispositive appeals or interferences.

Rule 41.37(c)(1)(iii) Status of claims

Claims 1-7 are pending in the application with claims 5-7 allowed and claims 1-4 finally rejected. This appeal involves the finally rejected claims.

Rule 41.37(c)(1)(iv) Status of amendments

There is no amendment after final rejection.

Rule 41.37(c)(1)(v) Summary of claimed subject matter

The invention provides a method of generating feature data of objects traversing the field of view of an image sensor such as a surveillance camera; the feature data can be used in querying the image database consisting of the image sensor output to find objects. Application Fig.8 and pages 17-19 describe the claim 1 feature data generation as including both (1) the sequence of grid blocks traversed by a moving object (e.g., the path of motion) plus (2) some other features, such as the color histogram of the object (claim 4), the object size, the object shape, et cetera.

Rule 41.37(c)(1)(vi) Grounds of rejection to be reviewed on appeal

The grounds of rejection to be reviewed on appeal are:

(1) Claims 1-4 were rejected as anticipated by the Tsuchikawa reference.

Rule 41.37(c)(1)(vii) Arguments

(1) Claims 1-4 were rejected as anticipated by Tsuchikawa; the Examiner pointed to Figures 3-4, 6-7 and column 5, lines 5-10 for the extraction of features

of a detected moving object plus a grid block sequence corresponding to the motion as required by claim 1.

Appellants reply that Tsuchikawa extracts (detects) a moving object in a sequence of images by updating the background and then subtracting it from the images to find the object; whereas, claim 1 presumes an already-detected moving object in a sequence of images and is directed at storing features plus a path of motion for the for the object. In particular, Tsuchikawa is based on sub-regions of images and tracks the intensity for each sub-region over time (e.g., Fig.4 upper right with sub-regions a1 a2, a3, ... for time interval t_0). Next, for each sub-region the variance of these intensity measurements over recent time is used to decide if the sub-region is part of the current background or if it currently contains some part of a moving object (e.g., Fig.4 middle right with 221 decision for sub-region a1, 222 decision for sub-region a2 , ...). Then the background is reconstructed from the corresponding background sub-regions and is subtracted to give the images modified to contain only the moving objects (e.g., Fig.4 left side). That is, Tsuchikawa generates a sequence of images with the background removed as illustrated by 520 in the lower left portion of Fig.4. However, Tsuchikawa does not suggest the storing of a feature set plus motion path (not a sequence of images) for a detected object as required by claim 1 and its dependent claims 2-4.

Rule 41.37(c)(1)(viii) Claims appendix

1. A method of video object feature data generation, comprising:

(a) extracting a first set of features from a moving object detected in a sequence of images;

(b) extracting a sequence of grid blocks corresponding to motion of said object in said sequence of images; and

(c) storing said first set of features and said sequence of grid blocks.

2. The method of claim 1, wherein:

(a) said extracting of step (a) of claim 1 includes extracting features in every image in said sequence containing said object.

3. The method of claim 1, further comprising:

(a) for each of said grid blocks of step (b) of claim 1, extracting features and associating said grid-block extracted features with said grid block sequence.

4. The method of claim 1, wherein:

(a) said first set of extracted features of step (a) of claim 1 includes a color histogram.

Rule 41.37(c)(1)(ix) Evidence appendix

n/a

Rule 41.37(c)(1)(x) Related proceedings appendix

n/a